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FORM PTO-1595 1-31-92

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U.S. DEPARTMENT OF COMMERCE Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks. Please record the attached original documents or copy thereof. 1. Name of conveying party(ies): 2. Name and address of receiving party(ies): Lianghe Zuo Name: Caterpillar Inc. Additional Names attached: [] Yes [X] No Internal Address: Intellectual Property Department Street Address: 100 N.E. Adams Street 3. Nature of Conveyance: City: Peoria __ State: <u>Illinois</u> Assignment Zip: 61629-6490 Security Agreement [] Other Execution Date(s): 05/01/98 Additional name(s) & addresses attached? [] Yes [X] No 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is 05/01/98. B. Patent No.(s) A. Patent Application No.(s) Additional numbers attached? [] Yes [X] No Title of Invention: HYDRAULICALLY-ACTUATED FUEL INJECTOR WITH HYDRAULICALLY ASSISTED CLOSURE OF NEEDLE VALVE Attorney Docket No.: 96-210 6. Total number of applications and patents 5. Name and address of party to whom corresponinvolved [1] dence concerning document should be mailed: Name: Larry G. Cain CATERPILLAR INC 7. Total fee (37 CFR §3.41) \$ 40.00 Internal Address: Intellectual Property [] Enclosed Department [X] Authorized to be charged to deposit account Street Address: 100 N. E. Adams Street 8. Deposit account number: 03-1129 (If charged duplicate copy attached) State: IL City: Peoria Zip: 61629-6490 9. Statement and signature: To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the origina//document. 05/7/98 Larry G. Cain Date Name of Person Signing Total number of pages comprising cover sheet, attachments, and document: [2] Mail document to be recorded with required cover sheet information to: 06/03/1998 JSHABAZZ 0000054 031129 09074916 Commissioner of Patents and Trademarks Box Assignments

Washington, D.C. 20231

PATENT REEL: 9203 FRAME: 0061

ASSIGNMENT

WHEREAS, LIANGHE ZUO, residing at Chicago, Illinois, hereinafter referred to as ASSIGNOR, has invented a new and useful

HYDRAULICALLY-ACTUATED FUEL INJECTOR WITH HYDRAULICALLY ASSISTED CLOSURE OF NEEDLE VALVE

for which ASSIGNOR is about to file an international application and/or make application for Letters Patent in the United States of America, such invention being described and identified by said application having an attached International Application Request and/or an attached Declaration and Power of Attorney executed by ASSIGNOR on $\frac{1}{2} \left| \frac{1}{2} \frac{1}{2}$

WHEREAS, CATERPILLAR INC., a Delaware corporation having a place of business at Peoria, State of Illinois, United States of America, hereinafter referred to as ASSIGNEE, is desirous of acquiring the entire right, title and interest in and to said invention and any Letters Patent granted thereon by the United States of America and any foreign country;

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) and for other good and valuable consideration received by ASSIGNOR from ASSIGNEE, the receipt of which is hereby acknowledged by ASSIGNOR;

- 1. ASSIGNOR hereby sells, assigns, transfers and conveys unto ASSIGNEE the entire right, title and interest in and to said invention, any application therefor, and any Letters Patent granted thereon by the United States of America and any foreign country, including any continuing application, reissue or extension thereof, together with the right to file applications and obtain patents for said invention in any foreign country, and covenant that ASSIGNOR has the full right to do so.
- 2. At the request and expense of ASSIGNEE, ASSIGNOR agrees to communicate to ASSIGNEE any facts known respecting said invention, to execute all papers necessary to file any application on said invention necessary or desirable to aid ASSIGNEE in obtaining and enforcing proper protection for said invention in the United States of America and any foreign country.
- 3. ASSIGNOR hereby authorizes and requests the COMMISSIONER OF PATENTS AND TRADEMARKS to issue the United States Letters Patent on said invention, when granted, to CATERPILLAR INC.
- 4. This assignment shall inure to the benefit of ASSIGNEE, its successors, assigns and other legal representatives, and shall be binding upon ASSIGNOR, ASSIGNOR's heirs and legal representatives.

| upon ASS | SIGNOR, ASS | IGNOR's heirs and | legal representatives. | _ | |
|------------|-----------------------------|-------------------|-------------------------------|--|--|
| IN | TESTIMONY | WHEREOF, ASSIGNOR | has executed this instrum | nent. | |
| LIANGHE | Z 00 | <u> Zni</u> | $\frac{\sqrt{1/4}}{\sqrt{2}}$ | | |
| hands. | | | Nitness (2) | | |
| V () L T (| ma qu | (Date) | Muchand Jou | 11/ay 1778 | |
| Witness | (1) | (Date) | Witness (2) | (Date) | |
| Address: | 5: 5556 5 Derektster # 1206 | | Address: 6022 S. | Address: 6022 S Dexel Ne | |
| | Christy It Enligt | | (hicago Z | Address: 6022 S Dexel Ne (Nicago 72 60637 | |
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RECORDED: 05/08/1998

PATENT REEL: 9203 FRAME: 0062